Electrolytic Capacitors under Electrical Overstress Data Sets

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Experimental Description:

Set of Eight electrolytic capacitors (identified as **ES10**) were continuously charged and discharged at a frequency of 100 mHz (50% duty cycle). The set was charged to 10 Volts respectively and discharged at the given frequency cycle. Electrochemical Impedance Spectroscopy (EIS) measurements were performed using an SP-150 Biologic Potentiostat instrument. The measured impedance values of each capacitor was used to calculate the capacitance (C) and equivalent series resistance (ESR) at regular intervals.

Files:

EOS_C.mat- Matlab data structure for all capacitors under electrical stress at 10 volts

e.g.

```
>> EOS_C

EOS_C =

     C: [1x1 struct]
     aging_time: [1x1 struct]
```

Data Structure:

The EOS_C.mat data structure contains two sub structures, **C** (measured capacitance data) and **aging_time**, (time at which aging measurements are taken).

DataSet Citation:

J. Celaya, C. Kulkarni, G. Biswas, and K. Goebel, "Towards A Model-based Prognostics Methodology for Electrolytic Capacitors: A Case Study Based on Electrical Overstress Accelerated Aging", International Journal of Prognostics and Health Management. 2012 Vol 3 (2) 004.